

nc

```
1  /*****
2
3      Online C Compiler.
4      Code, Compile, Run and Debug C program online.
5      Write your code in this editor and press "Run" button to compile and execute it.
6
7      *****/
8
9  #include <stdio.h>
10 #define size 5
11
12 void insertq(int[], int);
13 void deleteq(int[]);
14 void display(int[]);
15
16 int front = - 1;
17 int rear = - 1;
18
19 int main()
20 {
21     int n, ch;
22     int queue[size];
23     do
24     {
25         printf("\n\n Circular Queue:\n1. Insert \n2. Delete\n3. Display\n0. Exit");
26         printf("\nEnter Choice 0-3? : ");
27         scanf("%d", &ch);
28         switch (ch)
29         {
30             case 1:
31                 printf("\nEnter number: ");
32                 scanf("%d", &n);
33                 insertq(queue, n);
34                 break;
35             case 2:
36                 deleteq(queue);
37                 break;
38             case 3:
```

input

```

in.c
38         case 3:
39             display(queue);
40             break;
41     }
42     }while (ch != 0);
43 }
44
45 void insertq(int queue[], int item)
46 {
47     if ((front == 0 && rear == size - 1) || (front == rear + 1))
48     {
49         printf("queue is full");
50         return;
51     }
52     else if (rear == - 1)
53     {
54         rear++;
55         front++;
56     }
57     else if (rear == size - 1 && front > 0)
58     {
59         rear = 0;
60     }
61     else
62     {
63         rear++;
64     }
65     queue[rear] = item;
66 }
67
68 void display(int queue[])
69 {
70     int i;
71     printf("\n");
72     if (front > rear)
73     {
74         for (i = front; i < size; i++)
75

```

input


```

70 - {
71     int i;
72     printf("\n");
73     if (front > rear)
74     {
75         for (i = front; i < size; i++)
76         {
77             printf("%d ", queue[i]);
78         }
79         for (i = 0; i <= rear; i++)
80             printf("%d ", queue[i]);
81     }
82     else
83     {
84         for (i = front; i <= rear; i++)
85             printf("%d ", queue[i]);
86     }
87 }
88
89 void deleteq(int queue[])
90 {
91     if (front == - 1)
92     {
93         printf("Queue is empty ");
94     }
95     else if (front == rear)
96     {
97         printf("\n %d deleted", queue[front]);
98         front = - 1;
99         rear = - 1;
100    }
101    else
102    {
103        printf("\n %d deleted", queue[front]);
104        front++;
105    }
106 }
107

```

Circular Queue:

1. Insert
2. Delete
3. Display
0. Exit

Enter Choice 0-3? : 1

Enter number: 3

Circular Queue:

1. Insert
2. Delete
3. Display
0. Exit

Enter Choice 0-3? : 1

Enter number: 5

I

Circular Queue;

1. Insert
2. Delete
3. Display
0. Exit

Enter Choice 0-3? : 1

Enter number: 8

Circular Queue:

- 1. Insert
- 2. Delete
- 3. Display
- 0. Exit

Enter Choice 0-3? : 1

I

Enter number: 6

Circular Queue:

- 1. Insert
- 2. Delete
- 3. Display
- 0. Exit

Enter Choice 0-3? : 1

Enter number: 9

Circular Queue:

- 1. Insert
- 2. Delete
- 3. Display
- 0. Exit

Enter Choice 0-3? : 1

Enter number: 4

queue is full

3. Display

0. Exit

Enter Choice 0-3? : 3

3 5 8 6 9

Circular Queue:

1. Insert

2. Delete

3. Display

0. Exit

Enter Choice 0-3? : 2

3 deleted

Circular Queue:

1. Insert

2. Delete

3. Display

0. Exit

Enter Choice 0-3? : 3

5 8 6 9

Circular Queue:

1. Insert

2. Delete

3. Display

0. Exit

Enter Choice 0-3? :